

## **HON 131: FROM THE BIG BANG TO HUMANKIND**

**TIME:** M-W: 1:30 – 2:50

**PLACE:** **LDB 207** (may move to other rooms on campus)

### **OBJECTIVES:**

1. To explore the scientific facts and theories related to the origins of the universe, the earth, life, and human beings.
2. To explore the variety of possible implications of those facts and theories for humankind and human values. Our objective is to acquaint students with some of the scientific terms, processes, and concepts that are fundamental to the modern scientific world view.

### **ATTENDANCE AND MAKE-UP POLICIES:**

Attendance is mandatory in this seminar setting. Attendance records will be kept, and unexcused absences may substantially detract from the student's grade for class participation. If a student must miss class because of some illness or other valid excuse, he or she should contact the current instructor, as soon as possible to submit the excuse along with appropriate verification. If the excuse is valid, then arrangements will be made to make up any missed exams or presentations.

### **STUDENT PARTICIPATION:**

Since this is a seminar, a higher degree of student participation is expected than may be the case in an ordinary course. You should participate in class--ask questions, make contributions, enter into discussions, etc. Your daily classroom participation will be noted. In addition, each student will be responsible for producing a written report on a special topic, a written synopsis of that report, and an oral presentation.

### **GRADING:**

Grades in the course will be based on four examinations which will collectively be worth 60% of the final grade, 25% of the final grade will be determined by the written report, and 15% by the oral presentation. The class participation component will be used to handle borderline grades. The timing of the exams is indicated on the course schedule.

### **PRESENTATIONS:**

In addition to the four scheduled examinations over course content, each student will be required to select a topic from lists prepared by the instructors. No two students may research the same topic. Once the class size is determined, the students will be informed of the number of topics that will be allowed for each professor. The topics will be assigned on a first-come, first-served basis. The student will then work with the appropriate instructor in preparing a written report and an oral presentation on that topic. The oral presentation must be approximately ten minutes in length; an additional ten minutes will be required for answering questions and/or for class discussion. The presentations will be evaluated by the faculty members and the other students in the seminar. Details of the evaluation criteria will be provided at the appropriate time. Please note that a decision on the topic is due no later

than February 11, and that you **MUST** visit with the professor under whose specialty your topic falls by February 18. If you fail to make contact with the professor of your choice, you will be penalized in your final presentation evaluation. The oral presentations will be scheduled for the end of the semester; times will be assigned by a partially random process.

### **IMPORTANT DATES**

- Feb. 11: The selection of a topic is due
- Feb. 18: You must have met with the appropriate Professor for a substantial discussion
- Mar. 25: Draft submitted to the Writing Center
- Apr. 9: Final draft submitted to the Writing Center
- Apr. 16: The written report on your topic must be turned in to the professor who is guiding your studies

## PARTICIPATING FACULTY

### **Dr. Renee James, Physics**

Email: phy\_crj  
Office: F 306a  
Office Phone: x4888  
Office Hours: TTh 10 a.m. – noon or by appointment

### **Dr. Brian Cooper, Geology**

Email: bio\_bjc  
Office: LDB 300C  
Office Phone: x1566  
Office Hours: 11 – 11:50 am class days

### **Dr. Christopher Randle, Chemistry**

Email: cpr003@shsu.edu  
Office: LDB 141 or LDB 135  
Office Phone: x1554  
Office Hours: TBA

### **Dr. Monte Thies, Biology**

Email: bio\_mlt  
Office: LDB 115D  
Office Phone: x3746  
Office Hours: TBA

### **Dr. Gene Young, Course Coordinator**

Email: TBA  
Office: AB4 107  
Office Phone: TBA  
Office Hours: TBA

## COURSE SCHEDULE

### I. COSMOLOGY: DR. JAMES (Jan 16-Feb 11)

Orientation: An Introduction to the Study of Cosmology

Measuring the Universe

The Development of the Big Bang Theory

The First Atoms

Stars, Galaxies, and Atoms Heavier than Helium

The Origin of the Solar System

Feb. 11 Cosmology Exam

**A written decision naming your presentation topic is due Feb. 11.**

### II. GEOLOGY OF THE EARLY EARTH: DR. COOPER (Feb 13-Mar 3)

The Basics

Early Crustal Evolution

Later Crustal Evolution

Dinosaur Fossil Record

Dinosaur Controversies

Mar 3 Geology Exam

**By February 18, you must have made contact with the appropriate professor and engaged in a serious discussion about your topic.**

III. CHEMICAL EVOLUTION AND THE ORIGIN OF LIFE: DR. RANDLE  
(Mar 5 – Apr 2)

Primordial Soup

The RNA World

DNA Analysis and the Search for Adam and Eve

Ancient DNA

Tampering with Evolution

Apr 2 Chemical Evolution Exam

**By March 25, a draft of your report should be submitted to the Writing Center.**

IV. FROM WATER TO LAND: EVOLUTION OF TERRESTRIAL VERTEBRATES:  
DR. THIES (Apr 4 – Apr 21)

From Invertebrates to Fish – Adaptations to an aquatic environment

Amphibians and terrestrial radiation

Reptiles – Eliminating the ties to water

Birds as a vertebrate class

Mammals and the evolution of humans

Apr. 16 Animal Exam

**Final draft submitted to Writing Center no later than April 9  
Your written report is due on April 16**

## WRITTEN REPORT GUIDELINES

The purpose of this paper is to research and report on a topic as though you were writing for a scholarly publication aimed at your fellow honors students. You need to excite the readers about your topic. Following is a standard format for the report, but format may vary according to faculty sponsor.

ABSTRACT:	Briefly describe the paper Emphasize the importance of the topic Include significant conclusions
INTRODUCTION:	Discuss what this paper is going to tell us Discuss the significance of the paper Discuss the historical perspective
EVIDENCE:	Discuss the facts and observations Discuss the reliability of the facts and observations Discuss how are the facts related Discuss what information can be derived
DISCUSSION:	Discuss interpretations of the facts Discuss "THE" theory or opposing theories Include models, theories, and hypotheses
CONCLUSION:	Reiterate what this paper has told us Include evaluations of current theories Discuss how this topic has changed your perspective
REFERENCES:	Provide an alphabetical list of all works cited (author, book title or article title, journal, volume, pages, publisher, year)

At least 5 referenced articles should be acquired from scholarly literature, not Reader's Digest, the Huntsville Item, or the like. Keep direct quotes to a bare minimum. Within the text, cite references by author's last name and the year.

For example, 1. Hurlburt (1989) states that bixbyite is . . .

2. Bixbyite is characterized by a metallic luster and a brown streak  
(Hurlburt, 1989).

Most information found in topic-specific web sites is not considered a part of the "scholarly literature". For the most part these sites contain information that is not peer reviewed and therefore should not be included in your list of literature cited. Your supervising professor should be able to provide initial reference sources to assist you with a review of the literature pertaining to your topic.

The report should be at least 7 typed, double-spaced pages of text. Figures, illustrations, maps, and tables are encouraged, but are not considered part of the 7 required pages of text.

**CONSULT YOUR FACULTY SPONSOR REGULARLY**

## **Statement on Plagiarism from Modern Language Association.**

For details and examples of plagiarism, visit the web site sponsored by MLA  
<http://webster.commnet.edu/mla/plagiarism.htm>

Using someone else's ideas or phrasing and representing those ideas or phrasing as your own, either on purpose or through carelessness, is a serious offense known as plagiarism. "Ideas or phrasing" includes written or spoken material, of course -- from whole papers and paragraphs to sentences, and, indeed, phrases -- but it also includes statistics, lab results, art work, etc. "Someone else" can mean a professional source, such as a published writer or critic in a book, magazine, encyclopedia, or journal; an electronic resource such as material you discover on the World Wide Web; another student at your school or anywhere else; a paper-writing "service" which offers to sell written papers for a fee.

### **Penalty for Plagiarism**

The penalty for plagiarism is usually determined by the instructor teaching the course involved. In many schools and colleges, it could involve failure for the paper and it could mean failure for the entire course and even expulsion from school. Ignorance of the rules about plagiarism is no excuse, and carelessness is just as bad as purposeful violation. At the very least, however, students who plagiarize have cheated themselves out of the experience of being responsible members of the academic community and have cheated their classmates by pretending to contribute something original which is, in fact, a cheap copy. Within schools and colleges that have a diverse student body, instructors should be aware that some international students from other cultures may have ideas about using outside resources that differ from the institution's policies regarding plagiarism; opportunities should be provided for all students to become familiar with institutional policies regarding plagiarism.

Students who do not thoroughly understand the concept of plagiarism and methods of proper documentation should request assistance from their teacher and from librarians.